ORGANIC CHEMISTRY 1 LECTURE GUIDE 2019

BY RHETT C. SMITH

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Organic Chemistry 1
Lecture Guide 2019

By Rhett C. Smith, Ph.D.

Companion Books from the Proton Guru:

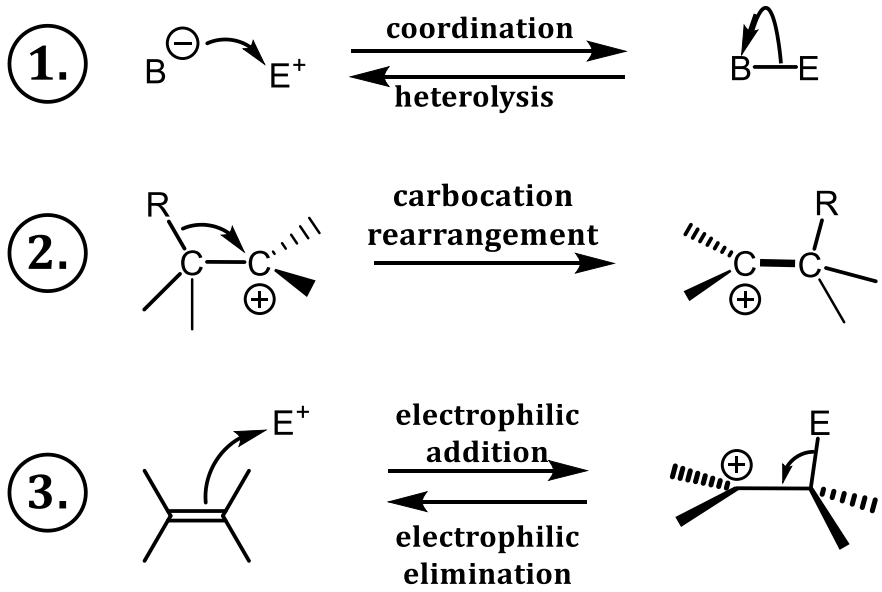
Organic Chemistry 1 Reactions and Practice Problems 2019

by Rhett C. Smith

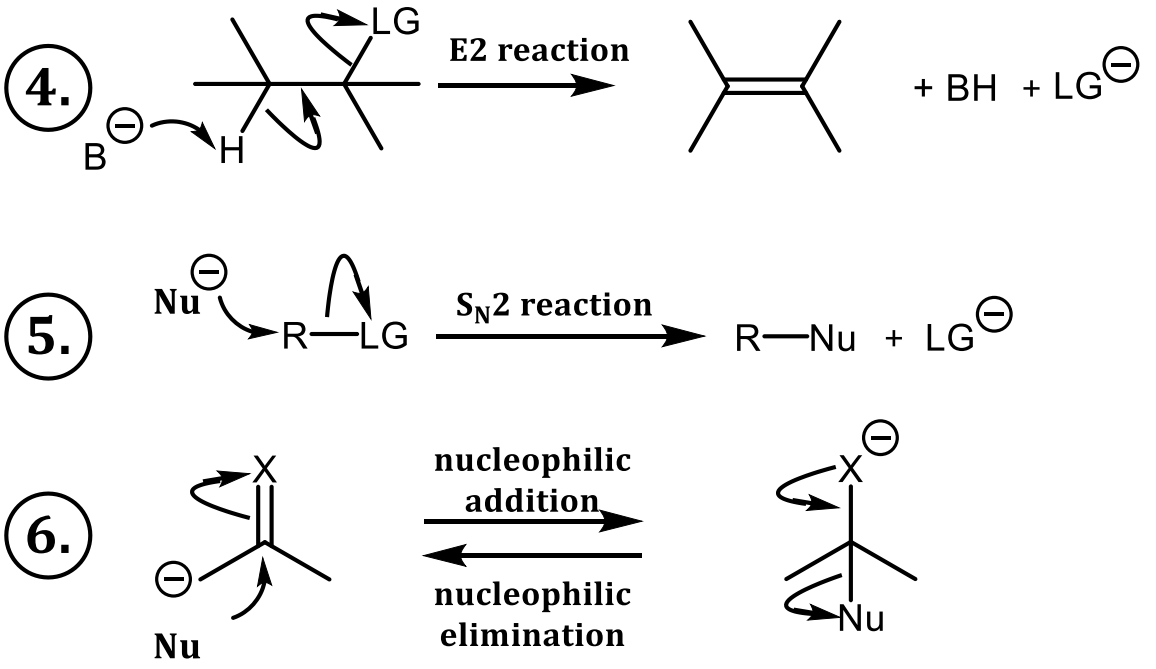
Organic Chemistry 1 Primer 2019,

by Rhett C. Smith, Andrew G. Tennyson, and Tania Houjeiry

We are not yet attempting to predict when or explain why these steps take place, but you should be able to 1. recognize which step is happening given reactants/reagents; 2. provide the arrows necessary for a transformation or 3. provide product(s) given reagent(s) and arrow(s).

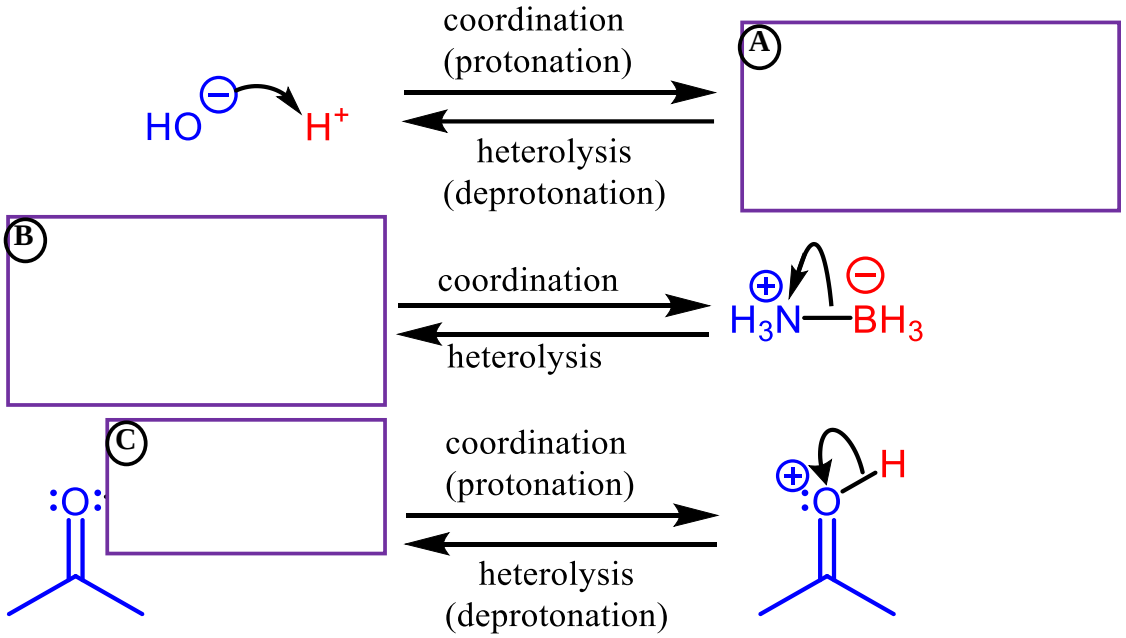


Notes


4.
LG
B
H
E2 reaction
+ BH + LG
5.
Nu
R—LG
S_N2 reaction
R—Nu + LG
6.
X
Nu
nucleophilic addition
nucleophilic elimination
X
Nu

Notes

Here are some examples of coordination and heterolysis. Protonation is a common example of coordination and deprotonation is a common example of heterolysis.



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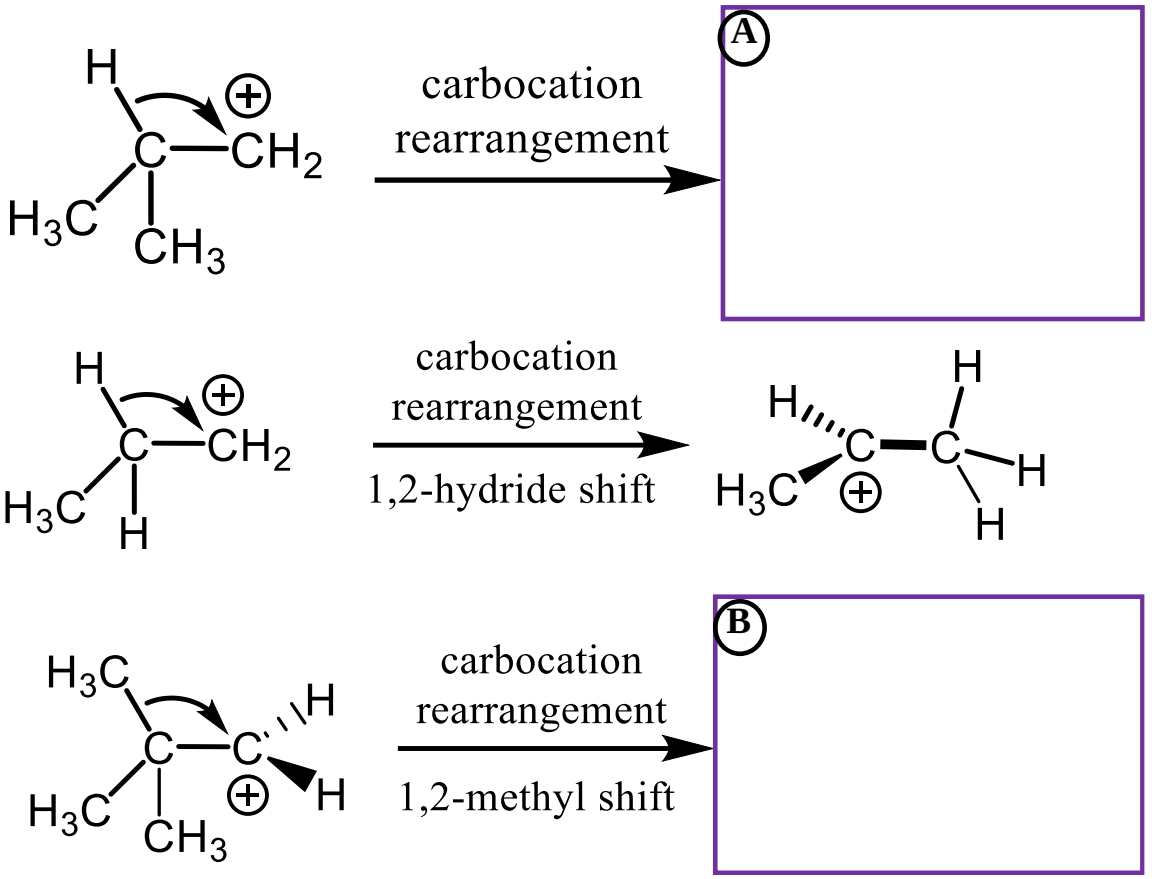
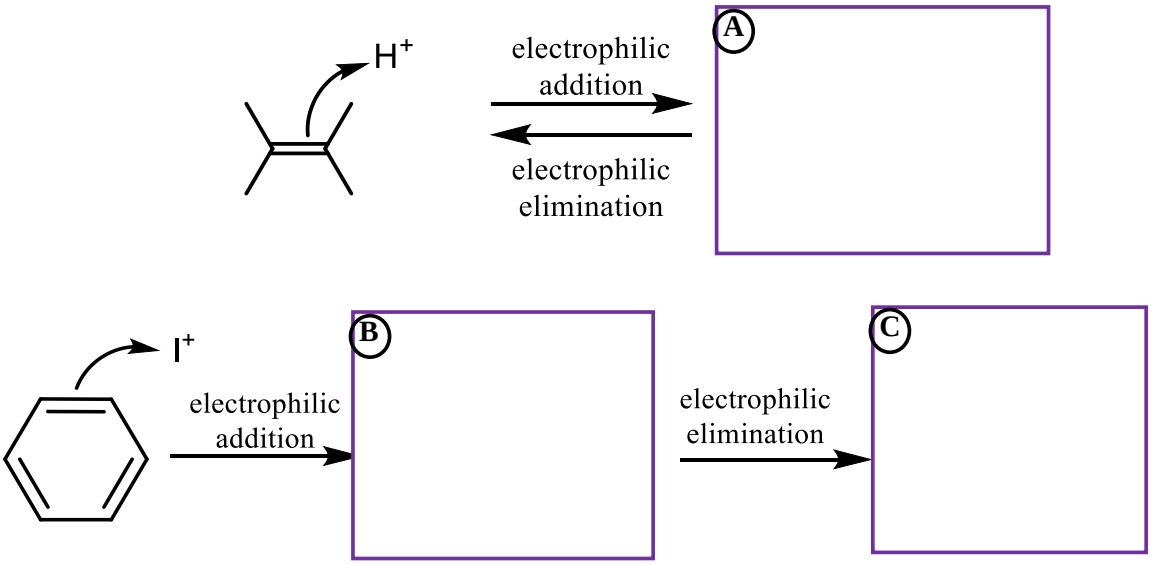
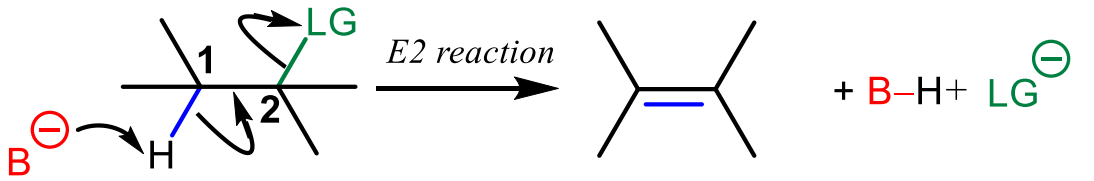
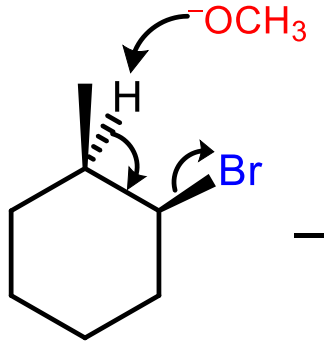

H
CH2
H3C
CH3
carbocation
rearrangement
A
H
CH2
H3C
H
carbocation
rearrangement
1,2-hydride shift
H
H
H3C
H
H
H3C
H
carbocation
rearrangement
1,2-methyl shift
B

Notes


H+
electrophilic addition
electrophilic elimination
A
I+
electrophilic addition
B
electrophilic elimination
C

Notes





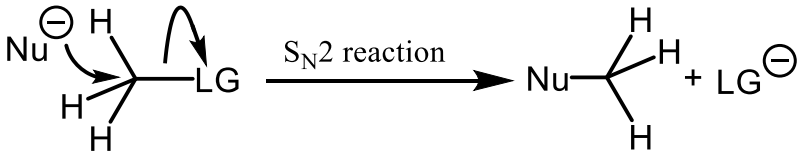
A

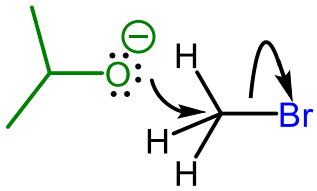
B

E2 reaction

+ HOCH3 + I

Notes



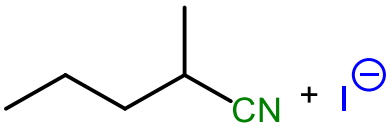


S_N2 reaction

A

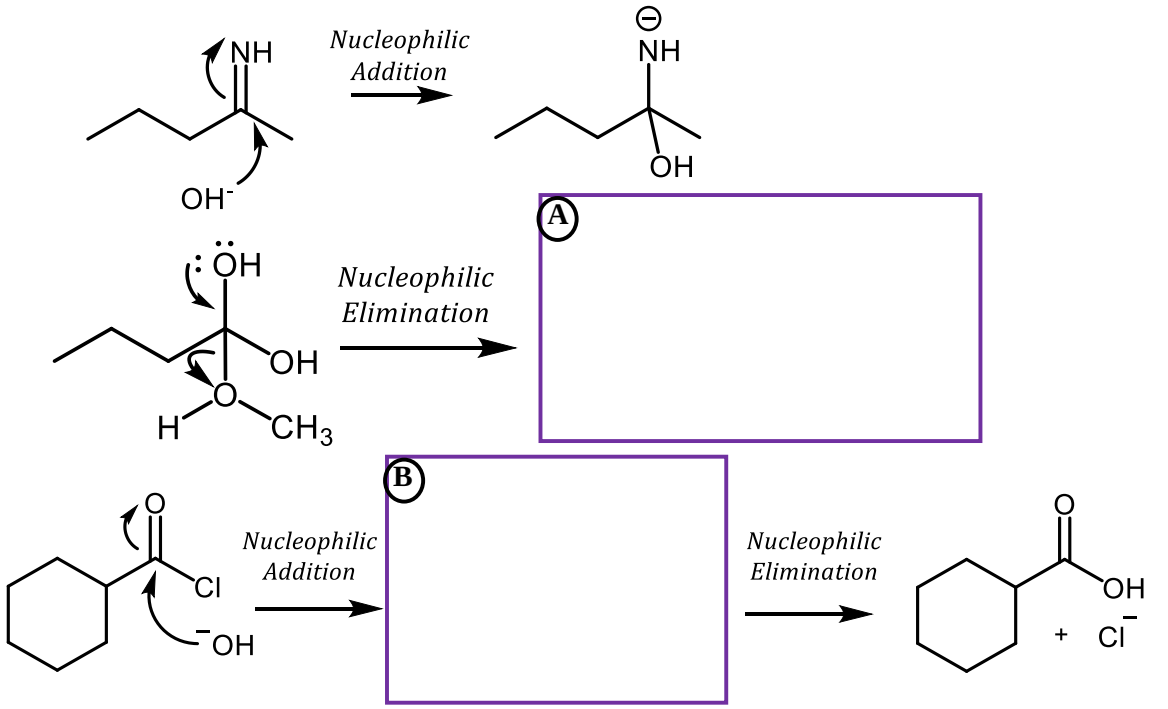
B

S_N2 reaction



Notes

Lecture Topic I.8: Elementary Steps of Reaction Mechanisms
Nucleophilic Addition and Elimination



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